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SERVICE MANUAL

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BG7500 ODYSSEY

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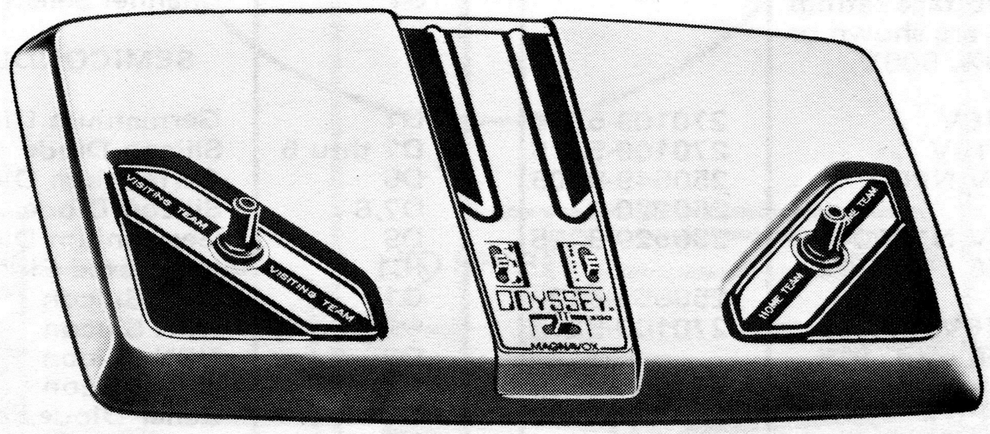

GENERAL INFORMATION

The BG7500 can be powered by either 6 "C" Cells or an optional AC to DC 9 volt adaptor.

The BG7500 features games of Hockey, Tennis and Smash, and as an extra challenge has switchable skill levels of Novice, Intermediate and Expert which automatically adjusts the player size, speed of the ball and deflection of the ball.

Automatic features include "on-screen" scoring which awards a point to the appropriate player or team each time the ball leaves the playing area. Automatic serve will return the ball into play from the side that was awarded the point. After either side has scored 15 points the ball will continue to be served but neither player will be able to return it.

During play a different audio tone is generated each time the ball hits a player, a wall, or a point is scored. No provisions are made to turn the sound on or off.

SERVICE ADJUSTMENTS

2 MHz Oscillator Adjustment

1. Connect a frequency counter to Pin 17 of IC1 and adjust C4 for 2.01 MHz ± 1%.

Channel 3 and 4 RF Oscillator Adjustment

1. Connect the Odyssey to an operating TV and defeat the TV AFT.

2. Place the TV Channel Selector to Channel 3, mechanically center the fine tuning, and set the Odyssey Channel Select switch to Channel 3.

3. While observing the game display, adjust L1 for optimum response.

4. Change the TV and the Odyssey to Channel 4 operation.

5. While observing the game display, adjust L1 & C14 for optimum response. (Note very little change will be noticed while adjusting C14).

6. Repeat Steps 2 thru 5 until Channel 3 and 4 game displays are equal in quality.

TYPICAL OPERATION (TENNIS)

Connect the 300 ohm twin lead from the Antenna/Game switch to the 300 ohm antenna terminals of a properly adjusted and operating television receiver. Connect the game cord cable from the Odyssey unit to the Antenna/Game switch and place the Game/TV switch in the "Game" position.

Place the Channel switch on the Odyssey to either Channel 3 or 4 and the television VHF Channel Selector to the same channel.

Set the Game switch to the center position and Skill switch to the desired skill level. Move the Power/Reset switch to the center position and fine tune the television if necessary. When play is ready to begin, move the Power/Reset switch to the Reset position and allow it to return to the center position. The score is now set to zero and the game begins. When either contestant reaches 15 points the players will be unable to return the ball and a new game will have to be started.

GSFWP1076

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BG7500 REPLACEMENT PARTS LIST

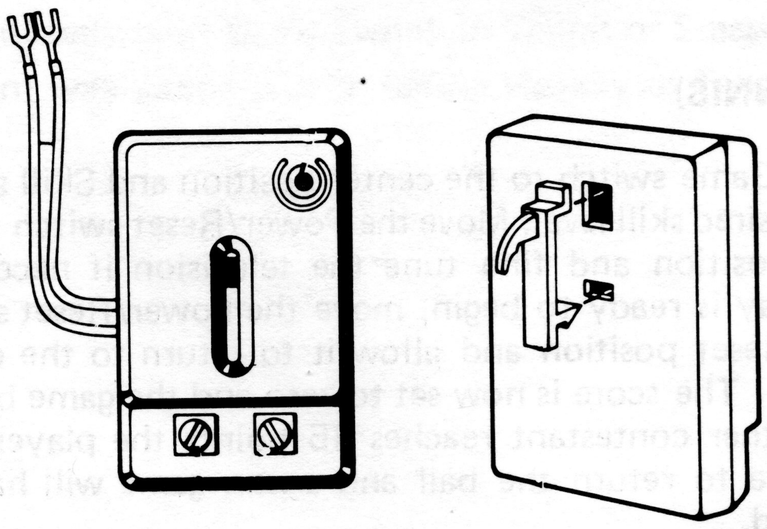
Note: When ordering replacement parts please specify the part number as shown in this list including Description, Chassis, and Model Number. Complete information will help expedite the order. Replacement parts may occasionally differ in part number or value from the Factory installed part. In either event the replacement part has been chosen to provide equal or improved performance.

REF.	DESCRIPTION	PART NO.
	COILS & TRANSFORMERS	
L1	Oscillator Coil	361495-2
L2	Peaking Coil, 100 uh	361444-1015
L3	Peaking Coil, 12 uh	361425-120
L4	Peaking Coil, 1 mh	361444-1029
T1	Bandpass Transformer	361467-2
	CAPACITORS Values, tolerances and voltage ratings for capacitors not listed are shown on the schematic, or are 10%, 500V.	
C1	Electrolytic, 470 mfd.,16V	270109-5215
C2	Electrolytic, 470 mfd., 16V	270109-5215
C3	Ceramic, 82 pf.,5%,500V,NPO	250549-8205
C4	Trimmer, 6-38 pf.	260220-2
C5	Ceramic, 82 pf.,5%,500V,N1500	250529-8205
C8	Metalized Polyester, .056 mfd.,10%, 250V	250655-5639
C9	Electrolytic, 470 mfd.,16V	270109-5215
C10	Metalized Polyester, .056 mfd.,10%, 250V	250655-5639
C14	Trimmer, 3-15 pf.	250371-6
C15	Ceramic, 10 pf.,5%,500V,NPO	250546-1005
C16	Ceramic,10 pf.,5%,500V,NPO	250546-1005
C17	Ceramic,2.2 pf.,10%,500V,NPO	250546-2297
C19	Ceramic,33 pf.,5%,500V,NPO	250546-3305
C20	Ceramic,27 pf.,5%,500V,NPO	250546-2705
	RESISTORS Values, tolerances, and wattages for resistors not listed are shown on the schematic, or are 5%, ¼W.	

REF.	DESCRIPTION	PART NO.
	CONTROLS & SWITCHES	
R8	500K, Right Player Control	220337-3
R10	500K, Left Player Control	220337-3
S1	On-Off/Reset Switch	160546-5
S2	Skill Switch	160546-4
S3	Game Switch	160546-4
S4	Channel Select Switch	160556-1
	SEMICONDUCTORS	
D1	Germanium Diode	530105-1001
D2 thru 5	Silicon Diode	530181-1001
D6	Germanium Diode	530105-1001
D7,8	Silicon Diode	530181-1001
D9	Germanium Diode	530105-1001
IC1	Integrated Circuit	612114-1
Q1	NPN Silicon	610224-1
Q2	NPN Silicon	610139-2
Q3	NPN Silicon	610232-2
Q4	NPN Silicon	610139-2
Z1	Zener Diode, TV	530073-1039
FB1	Ferrite Bead	364005-1
J1	External Power Jack	181139-2
	Game Cable Assembly	461218-4
	Battery Connector	181096-3
	Speaker, 2¼"	580108-1
	Speaker Holding Strap	143856-1

ANTENNA/GAME SWITCH REPLACEMENT PARTS LIST

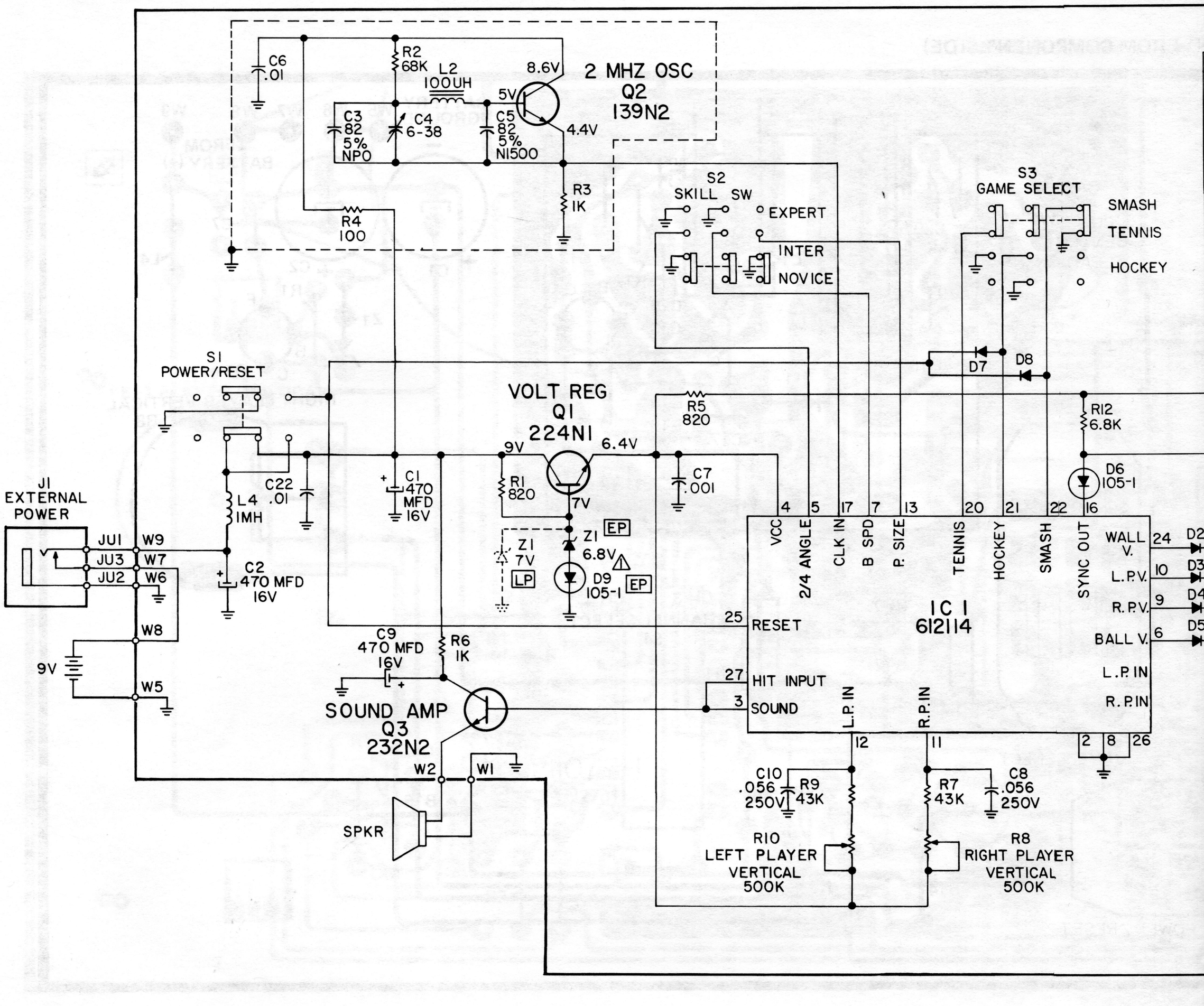
DESCRIPTION	PART NO.
Case Top	143676-1
Case, Bottom	143674-1
Plastic Hook	143719-1
Screw Terminal (2 used)	200495-1
Solderless Terminal (2 used)	200517-1
Phono Socket	180902-4
Antenna/Game Switch	160499-3
Antenna Balun	361108-2
Game Cable Assembly	461218-3
Complete Antenna/Game Sw. Ass'y.	701702-2



CABINET REPLACEMENT PARTS LIST

DESCRIPTION	PART NO.
Foot, Black	141737-3
Battery Holder	142658-1
Bottom Case	143669-5
Top Case	143670-4
Knob, Black	143689-5
Bezel, Control (Visiting Team)	143854-2
Bezel, Control (Home Team)	143854-1
Inlay, Visiting Team	151484-1
Inlay, Home Team	151484-2
Inlay, Center	151483-1
Dust Barrier f/Game Switch	151449-3
Dust Barrier f/Power Switch	151449-5
Dust Barrier f/Skill Switch	151449-3
Stud, Cover Holding	732953-2
Spring Lock Nut f/Stud	103235-1
"O" Ring f/Stud	103082-4

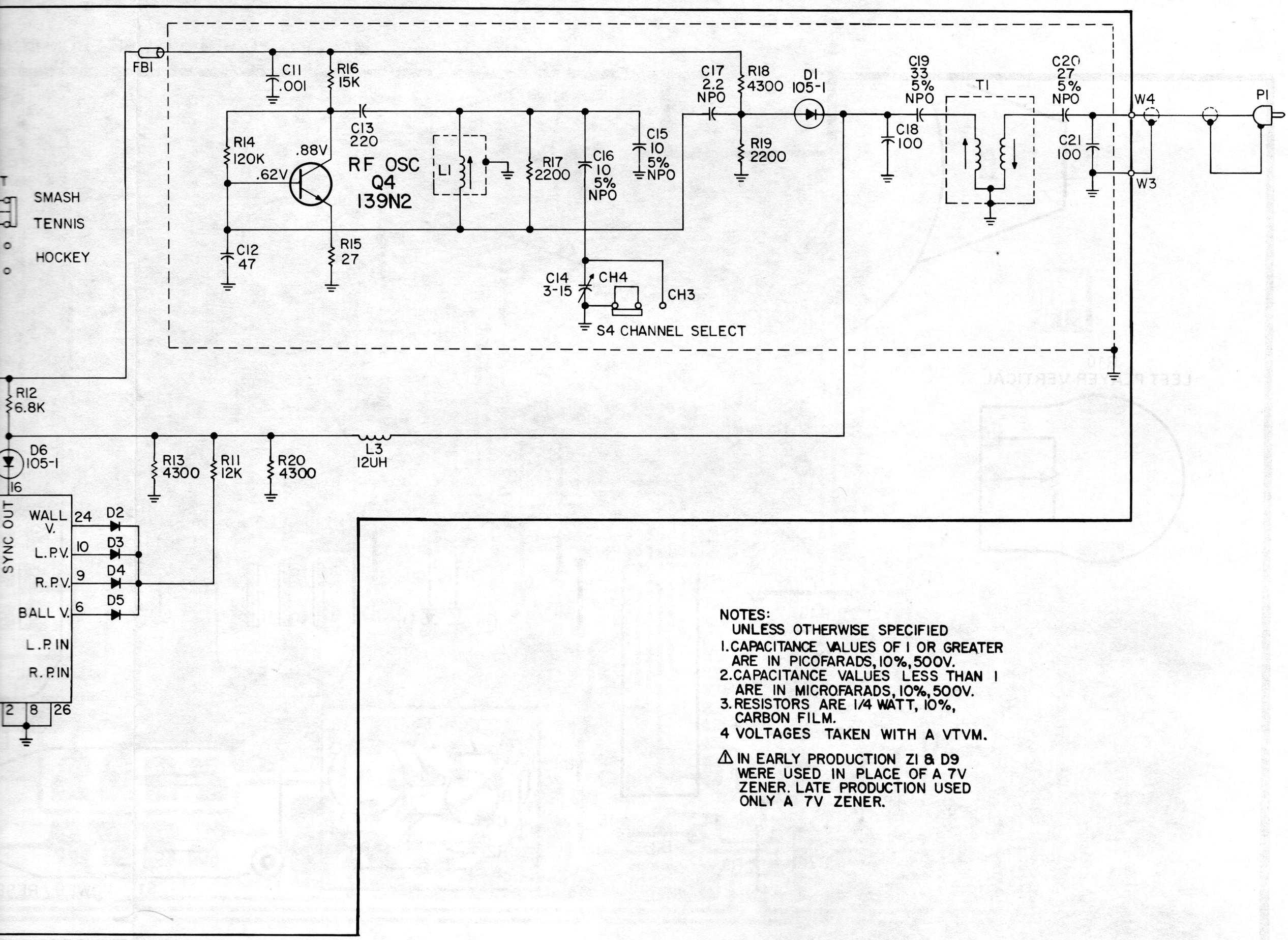
BG7500 SCHEMA



IC1 VOLTAGE CHART

PIN	VOLTAGE	NOTE	PIN	VOLTAGE	NOTE
1	Not Used	-----	15	Not Used	-----
2	Ground	-----	16	5.8V	-----
3	Sound	-----	17	4.4V	-----
4	6.4V	-----	18	Not Used	-----
5	6.4V	1	19	Not Used	-----
6	B. Video	-----	20	6.2V	6
7	6.4V	2	21	6.2V	7
8	Ground	-----	22	6.2V	8
9	R.P. Video	-----	23	Not Used	-----
10	L.P. Video	-----	24	W. Video	-----
11	1.2V to 5.4V	3	25	6.2V	-----
12	1.2V to 5.4V	4	26	Ground	-----
13	6.2V	5	27	Sound	-----
14	Not Used	-----	28	Not Used	-----

G7500 SCHEMATIC DIAGRAM



NOTES:
UNLESS OTHERWISE SPECIFIED

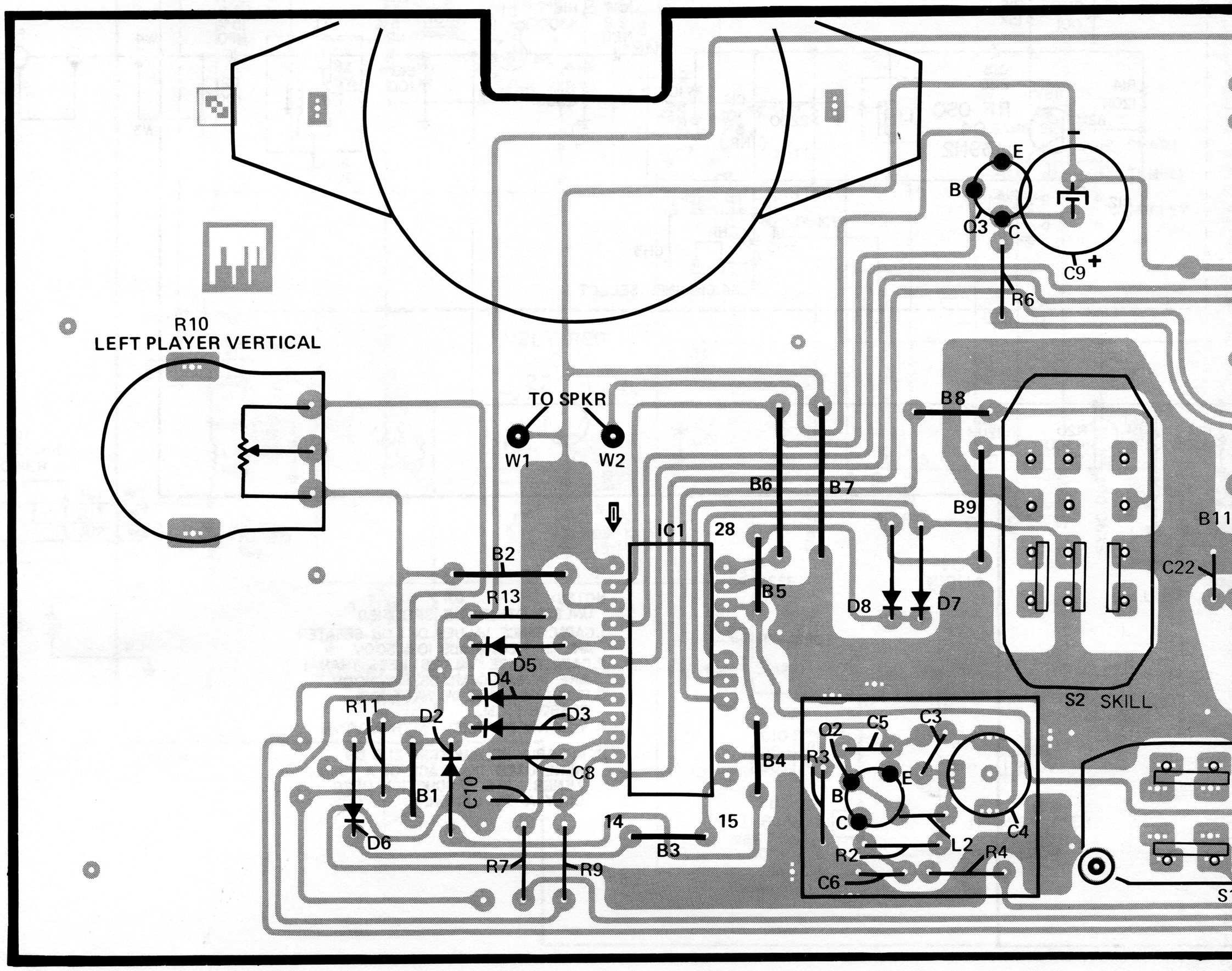
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS, 10%, 500V.
2. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, 10%, 500V.
3. RESISTORS ARE 1/4 WATT, 10%, CARBON FILM.
4. VOLTAGES TAKEN WITH A VTVM.

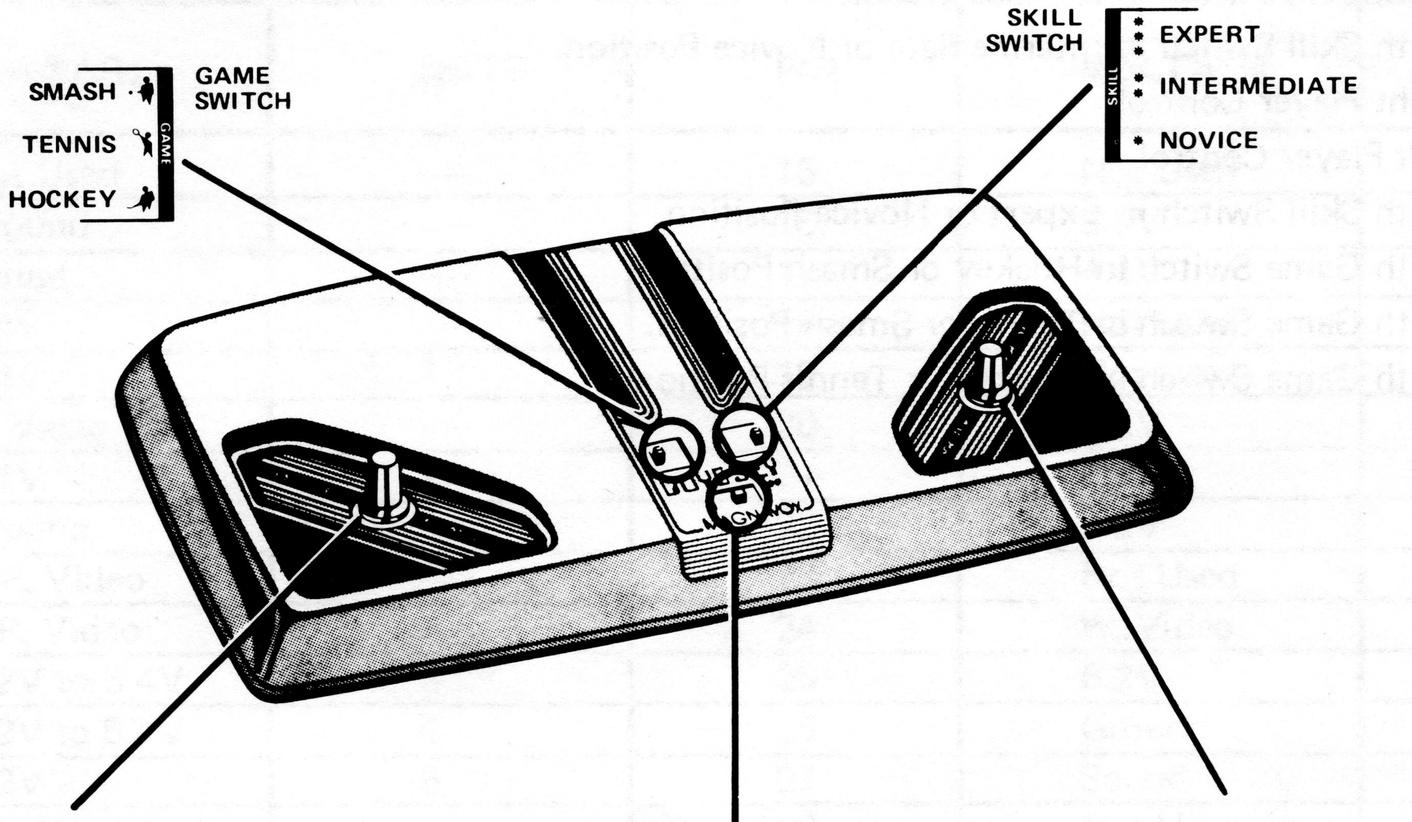
⚠ IN EARLY PRODUCTION Z1 & D9 WERE USED IN PLACE OF A 7V ZENER. LATE PRODUCTION USED ONLY A 7V ZENER.

NOTES:

1. Present only with Skill Switch in Novice Position.
2. Present only with Skill Switch in Intermediate or Novice Position.
3. Varies with Right Player Control.
4. Varies with Left Player Control.
5. Present only with Skill Switch in Expert or Novice Position.
6. Present only with Game Switch in Hockey or Smash Position.
7. Present only with Game Switch in Tennis or Smash Position.
8. Present only with Game Switch in Hockey or Tennis Position.

MAIN P.C. BOARD (VIEW





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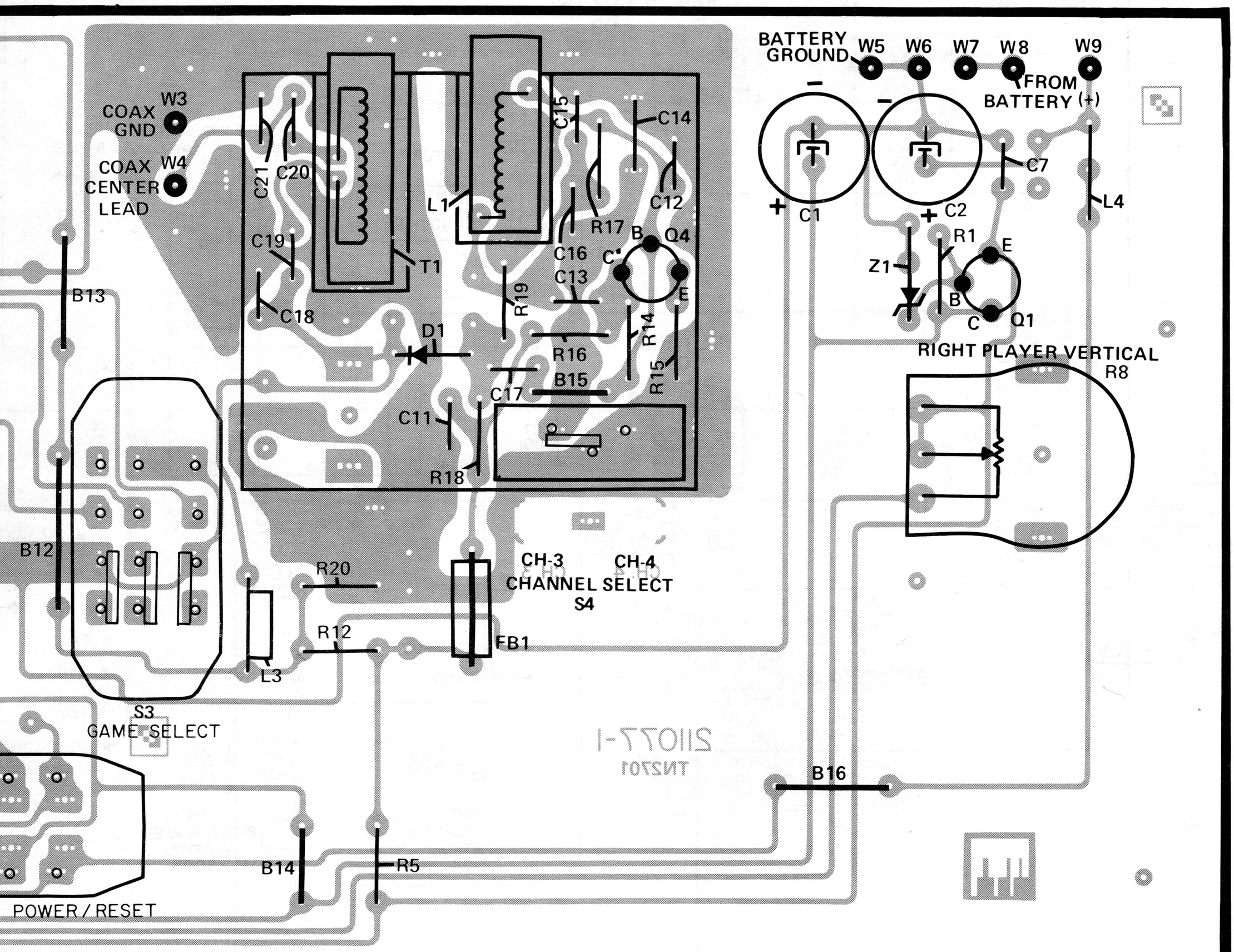

SERVICE NOTES